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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/594,995	06/14/2000	Masaki Katayama	P/2171-185	7919

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EXAMINER

FAULK, DEVONA E

ART UNIT PAPER NUMBER

2644

DATE MAILED: 08/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/594,995

Applicant(s)

KATAYAMA ET AL.

Examiner

Devona E. Faulk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 8,10,11 and 13 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. In response to the restriction requirement set forth in the office action mailed April 16, 2004, the applicant has elected invention II (claims 15 and 16), drawn to an audio system for virtual processing, for continued examination without traverse.

Response to Arguments

2. Applicant's arguments with respect to claims 8,10,11,13 have been considered but are moot in view of the applicant's decision to elect claims 15 and 16 for continued examination in response to the restriction/election mailed on 4/16/04.

Claim Rejections - 35 USC § 112

3. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 15 recites, "a listener feeling that sound comes from the virtual speaker". The term "feeling" is vague and indefinite.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(f) he did not himself invent the subject matter sought to be patented.

5. Claim 15 is rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter.

Regarding claim 15, the applicant's admitted prior art (Figures 11 and 12, page 1, line 14-page 4, line 3) discloses a stand alone audio system including a virtual speaker position operation part (ROM) (Figure 11, Figure 12) (page 3, lines 14-20), a position of

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a virtual speaker being given through the virtual speaker position operation part, a listener feeling that sound comes from the virtual speaker (page 3, lines 14-20); a sending part for sending DSP parameter data that is prepared for each of sampling frequencies and includes data defining the position of the virtual speaker given through the virtual speaker position operation part memory for storing the DSP parameter data being sent from the sending unit (Figure 11) (There is inherently some method of sending the DSP data) ; audio signal terminals (Figure 11, T1-T4) corresponding to sound sources, where audio signals from the sound sources are input through the audio signal terminals; a selector (SL; Figure 11) for selecting a sound source from among the sound sources; a sound field processor (DSP, page 3, lines 3-8; lines 17-20) for sound field processing the sound signal from the selected sound using one of the DSP parameter data corresponding to the sampling frequency of the sound source selected by the selector, and an output terminal (Ts), the audio signal processed by the sound field processor through the output terminal (Figure 11, Figure 12) (page 3, lines 17-20).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art (Figures 11 and 12, page 1, line 14-page 4, line 3) in view of Scofield et al. (U.S. Patent 5,459,790).

Claim 16 claims the audio system of claim 15, wherein the DSP parameter includes constituent of a head relation transfer function for a right ear, constituent of a head relation transfer function for a left ear and constituent representing difference between both ears with respect to time of arrival of an identical sound at both ears. As stated above apropos of claim 15, the applicant's admitted prior art meets all elements of that claim. Therefore, the applicant's admitted prior art meets all elements of claim 16 with the exception of the claimed matter. Scofield teaches the concept of a DSP parameter including constituents of a head related transfer function for a right and left ear and a constituent representing difference between both ears as claimed (column 3, lines 2-31). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use Scofield's concept of a DSP parameter as claimed for the benefit of giving the user the ability to apply direction dependent equalization.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 703-305-4359. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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FORESTER W. ISEN
SUPERVISORY PATENT EXAMINER

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